



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/685,191	10/06/2000	Reginald Hunter	AMAT/3083.P7/FET/FET/DV	5577

32588 7590 08/18/2003

APPLIED MATERIALS, INC.
2881 SCOTT BLVD. M/S 2061
SANTA CLARA, CA 95050

EXAMINER

SMITH, ZANDRA V

ART UNIT	PAPER NUMBER
----------	--------------

2877

DATE MAILED: 08/18/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/685,191

Applicant(s)

HUNTER, REGINALD

Examiner

Zandra V. Smith

Art Unit

2877

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7-14 and 16-21 is/are rejected.
- 7) ☒ Claim(s) 6 and 15 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-5, 7-8, 10-14, 16, and 18-21 are rejected under 35 U.S.C. 102(e) as being anticipated by *Phan et al. (6,320,402)*.

As to **claim 1**, Phan discloses a system for parallel inspection of semiconductor wafers, comprising:

receiving from one of a plurality of optical inspection systems, process data readings comprising optical signal signature information indicative of a topographical condition on a substrate; and

processing the process data reading to determine a subsequent handling step (col. 6, lines 18-45).

As to **claims 2, 11, and 19**, Phan discloses everything claimed, as applied above, in addition if the process data exceeds a predetermined value an unacceptable topographical condition is determined to exist and the substrate is transferred to an inspection platform (col. 6, lines 35-45).

As to **claims 3, 12, and 20**, Phan discloses everything claimed, as applied above, in addition substrate defect information is determined (col. 6, line 42).

As to **claim 4**, Phan discloses everything claimed, as applied above, in addition processing the data includes determining whether to transfer the substrate to the inspection platform for further inspection (col. 6, lines 50-60).

As to **claims 5, 13, and 21**, Phan discloses everything claimed, as applied above, in addition the subsequent process step may be termination (col. 6, lines 45-48).

As to **claims 7, 10, 14, and 18**, Phan discloses a system for parallel inspection of semiconductor wafers, comprising:

a plurality of optical inspection system (302, 304, 306, 308), including a platform (310), to perform optical inspection systems to perform optical inspection at different degrees of resolution, as evidenced by figure 3 where it is shown that inspection is performed at different resolutions, specifically micro and macro; and

a controller (324) connected to the plurality of optical inspection systems and the platform to process data readings comprising optical signal signature information indicative of a topographical condition on a substrate and to process the process data reading to determine a subsequent handling step (col. 6, lines 18-45) and transfer the substrate to the inspection platform for further optical inspection (col. 6, lines 50-60).

Phan differs from the claimed invention in that an input unit is not provided, however the system controller may be a personal computer, therefore an input means is inherently met since a personal controller includes a keyboard.

As to **claim 8**, Phan discloses everything claimed, as applied above, in addition the inspection system is disposed on a processing system along a transfer path of the substrate (see fig. 3).

Art Unit: 2877

As to **claim 16**, Phan discloses everything claimed, as applied above, in addition the inspection systems are disposed on a process system along a transfer path (see fig. 3).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 9 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Phan et al.* (6,320,402) in view of *Morioka et al.* (5,274,434).

As to **claims 9 and 17**, Phan discloses everything claimed, as applied above, with the exception of a CCD and a spectrometer, however the inclusion of a CCD and a spectrometer in an inspection system of a wafer processing system is well known as taught by Morioka. Morioka discloses a system for real time inspection in a semiconductor mass production line that includes a CCD (col. 8, line 58) and a spectrometer (col. 6, lines 25-30). It would have been obvious to one having ordinary skill in the art at the time of invention to include a CCD since a CCD allows for detection of defects as well as the production of an image for analysis. It would have been obvious to one having ordinary skill in the art at the time of invention to include a spectrometer since the spectrometer will provide composition analysis of the defect.

Art Unit: 2877

Allowable Subject Matter

Claims 6 and 15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: the prior art of record, taken alone or in combination, fails to disclose or render obvious determining the position of the substrate in the processing system to determine a routing sequence for the substrate or disposing one of the plurality of inspection systems on the process chamber and another one of the plurality on the transfer chamber.

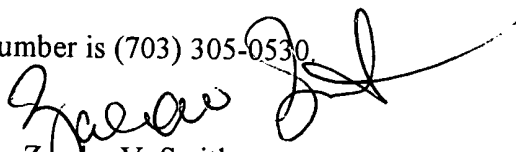
Fax/Telephone Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Zandra V. Smith whose telephone number is (703) 305-7776.

The examiner can normally be reached on 8:00 a.m. - 4:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank G. Font can be reached on (703)308-4881. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-0530.


Zandra V. Smith
Primary Examiner
Art Unit 2877

August 11, 2003